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## gran·ule (grăn'yool)

1. A small grain or pellet; a particle.
2. Geology A rock or mineral fragment larger than a sand grain and smaller than a pebble, between 2 and 4 millimeters in diameter.
3. Astronomy One of the small, transient, brilliant markings in the photosphere of the sun.
4. Biology A cellular or cytoplasmic particle, especially one that stains readily.

[Late Latin grānulum, diminutive of Latin grānum, grain; see grā- in Indo-European roots.]

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## granule

Noun

a small grain of something; *gravy granules* [Late Latin *granulum* a small grain]

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## granule (grăn'yool)

1. A rock or mineral fragment larger than a sand grain and smaller than a pebble. Granules have a diameter between 2 and 4 mm (0.08 and 0.16 in) and are often rounded.
2. Any of the small, transient convective cells within the Sun's photosphere where hot gases rise and quickly dissipate. Granules are generally between a few hundred and 1,500 km in width. They completely cover the Sun's surface, giving it its characteristic grainy or stippled look, and form and break up within a matter of minutes.
3. An aggregate of enclosed grainy matter found in a cell. Granulocytes, mast cells and other cells contain granules in their cytoplasm, which differ in size and can often be identified by a characteristic laboratory stain based on their composition. Granules produce and store biologically active substances, the release of which is called *degranulation*. The granules of granulocytes contain mostly multiple enzymes and other proteins; those of mast cells contain histamine and other chemical mediators.

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## Thesaurus

Legend: } Synonyms [Related Words] Antonyms

Noun 1. granule - a tiny grain

- microsome - a tiny granule in the cytoplasm that is where protein synthesis takes place under the direction of mRNA
- chondrule - small granule (of e.g. chrysolite) found in some meteoric rocks
- grain - a relatively small granular particle of a substance; "a grain of sand"; "a grain of sugar"
- plastid - any of various small particles in the cytoplasm of the cells of plants and some animals containing pigments or starch or oil or protein



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## granule

noun GRAIN, scrap, molecule, particle, fragment, atom, crumb, jot, speck, iota

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### granule

*n* granule ['grænju : l]

a very small particle a *granule of sugar*.

*adj* granular

*adj* granulated [-lə-]

broken into tiny particles *granulated sugar*.

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# Microparticles

From Wikipedia, the free encyclopedia

**Microparticles** are particles between 0.1 and 100  $\mu\text{m}$  in size. Commercially available microparticles include those made of glass, latex, polystyrene, various metals (carbon, silver, copper, etc.), and various magnetic materials. One can encounter microparticles everyday, such as pollen, very fine sand, and dust.

Microparticles have a much larger surface-to-volume ratio than at the macroscale, and thus their behavior can be quite different. For example, metal microparticles can be explosive in air.

Microspheres are spherical microparticles, and are used e.g. as carriers of pharmaceutical substances.

## Microparticles in diagnostic medical tests

Most people are familiar with home pregnancy test s - a color appears if the test is positive. These tests make use of gold microparticles.

## Alternative definitions for size

Although the generally accepted definition of 0.1 to 100  $\mu\text{m}$  compliments the size definition of nanoparticles, there are other ways to define the size.

Mathematical: as the term "micro" refers to  $10^{-6}$ , the range for micro would then be  $10^{-7.5}$  to  $10^{-4.5}$ , or roughly 31.6 nm to 31.6 micrometers. However, general acceptance considers particles smaller than 100 nm nanoparticles.

Rounding: rules of rounding in mathematics provide an alternative for the definition. Anything larger than 0.5  $\mu\text{m}$  and anything smaller than 0.5 mm is considered microparticles.

Convenient/popular: Very often particles with dimensions more than 100 nm are still called nanoparticles. The upper range may be between 300 to 700 nm, so this would give a size definition for microparticles of 0.3 to 300  $\mu\text{m}$  or 0.7 to 700 micrometers.

Retrieved from "<http://en.wikipedia.org/wiki/Microparticles>"

Categories: Materials stubs

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Main Entry: **mi-cro-par-ti-cle**

Pronunciation: **l-'par-ti-kəl**

Function: *noun*

Date: 1929

: a very small particle; *especially* : one that is microscopic in size

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